

CAPE NOME TEMPERATURES.

The Editor has for a long time been gathering and discussing the temperature records for Alaska, as far as these are accessible to him. He is, therefore, very glad to be able to quote the data for a new station at the gold fields of Cape Nome, latitude 64.5° N., longitude 165° W., as published in the May report of the California section. These observations were made by Mr. A. G. Blake, United States Deputy Surveyor, between 7 and 8 a. m., local time, from November 1, 1899, to March 16, 1900. This station was very much needed in order to fill up our study of the climate of the coast of Alaska. The older stations in its neighborhood were Port Clarence, Fort St. Michael, and Omilak.

The hourly corrections needed in order to reduce the monthly means of observations made at Cape Nome at 7:30 a. m., local time, to the mean of twenty-four hourly observations, have been deduced as follows:

January	+0.2	April	+0.8	July	+0.2	October	+1.5
February	+1.2	May	-0.2	August	+0.8	November	+0.8
March	+2.3	June	+0.3	September	+1.2	December	-1.2

These corrections are taken from small charts prepared for this purpose by Mr. H. B. Wren, under the Editor's directions.

The figures quoted from the California report are as follows:

Date.	1899.		1900.		
	Novem-ber.	Decem-ber.	Janu-ary.	Febru-ary.	March.
1	10	18	0	18	3
2	10	8	-3	18	0
3	23	5	0	15	12
4	23	22	-4	20	16
5	24	18	14	18	8
6	20	18	8	18	14
7	10	10	0	18	10
8	10	5	-2	22	2
9	20	8	-2	10	-12
10	28	-12	2	0	-12
11	4	8	12	24	0
12	10	12	4	30	-18
13	14	32	8	28	-16
14	16	22	-6	33	9
15	5	14	-18	26	7
16	0	20	-10	30	30
17	20	-10	-20	12	.....
18	20	-4	-27	10	.....
19	22	-18	-22	10	.....
20	18	-20	-34	4	.....
21	8	-22	-27	-5	.....
22	2	-30	-38	-4	.....
23	8	-26	-25	4	.....
24	2	-30	-28	10	.....
25	26	-13	-23	8	.....
26	26	-8	10	3	.....
27	14	0	12	2	.....
28	26	-3	18	12	.....
29	24	-12	26	.....	.....
30	22	-10	26	.....	.....
31	3	16	.....	.....	.....
Mean	+15.0	-1.2	-4.2	+14.0	.....
Corrected	+0.8	-0.2	+0.2	+1.2	.....
Corrected mean	+15.8	-1.4	-4.5	+15.2	.....

THE WEATHER OF THE MONTH.

By ALFRED J. HENRY, Professor of Meteorology.

Atmospheric pressure was considerably lower than usual over practically the whole country. High temperatures prevailed, especially in the upper Missouri Valley, where maximum values from 100° to 105° were registered. The monthly mean temperature over a very large area was much above the seasonal average. The region of abnormally high temperatures extended from the lower Lakes in a continuous line westward to near the Pacific coast and southward to about the thirty-sixth parallel of latitude. In parts of this area the rainfall was scant, and the staple crops suffered accordingly; in other portions the rainfall was sufficient for all needs. General rains fell in California during the first part of the month; during the latter half of the month there were no rains to speak of. Elsewhere on the Pacific coast the rainfall was from 1 to 2 inches above the normal.

The month was rather free from destructive local windstorms and thunderstorms.

PRESSURE.

The distribution of monthly mean pressure is graphically shown on Chart IV, and the numerical values are given in Tables I and X.

Mean pressure was highest, 30.05 inches, on the Pacific coast, and lowest, 29.80, on the northeastern Rocky Mountain slope. It was generally below normal throughout the whole country. As compared with the preceding month, there was a marked decrease along the northern boundary from the

lower Lakes to Montana. In general, low area storms moved across the country in the northern track, although several cases of lows moving eastwardly simultaneously in both the northern and southern tracks were noted. Generally, however, these latter joined at some point in the Lake region.

TEMPERATURE OF THE AIR.

The distribution of monthly mean surface temperature, as deduced from the records of about 1,000 stations, is shown on Chart VI.

Temperature was markedly above the normal in all regions except New England, the interior of Texas, and the coast line of Washington, and part of Oregon. The greatest excess was noted in the upper Missouri Valley, where a daily departure of 10° above the normal was registered. The average daily departure diminished from the upper Missouri Valley rather uniformly in all directions. Very high temperatures were registered in the Dakotas, Montana, and the Red River Valley—higher, in fact, than were recorded elsewhere in the United States, except in Arizona and the desert regions of southern California.

Temperatures below freezing occurred throughout northern New England, the plateau region of New York State, western Pennsylvania, West Virginia, and quite generally throughout the northern part of the Lake region, Minnesota, and North Dakota.

In Canada.—Professor Stupart says:

The mean temperature of the month exceeded the normal in all parts of the Dominion lying west of a line running approximately northward from the Bay of Quinte to Moose Factory, and was below normal in districts to the eastward, including the Ottawa Valley and the whole of Quebec and the Maritime Provinces. The greatest positive departures, amounting to between 6° and 8°, occurred in Manitoba and Assiniboia, and the largest negative departures in parts of Quebec

and New Brunswick, where 3° below normal was recorded at many stations. In British Columbia generally the normal appears to have been exceeded by from 1° to 2°.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	10	52.7	-1.2	+1.5	+0.3
Middle Atlantic	12	62.3	+0.8	+0.4	+0.1
South Atlantic	10	70.4	+0.2	-4.4	-0.9
Florida Peninsula	7	75.9	+0.1	-6.6	-1.3
East Gulf	7	73.4	+0.5	-7.1	-1.4
West Gulf	7	73.2	+0.6	+0.1	0.0
Ohio Valley and Tennessee	12	66.8	+1.8	-2.9	-0.6
Lower Lake	8	58.5	+1.7	-2.0	-0.4
Upper Lake	9	54.7	+3.4	+6.7	+1.3
North Dakota	8	59.8	+6.4	-26.3	+5.3
Upper Mississippi Valley	11	64.7	+3.3	+5.6	+1.1
Missouri Valley	10	65.1	+5.0	+15.1	+3.0
Northern Slope	7	59.0	+5.7	-24.1	+4.8
Middle Slope	6	64.2	+2.3	+10.2	+2.0
Southern Slope	6	66.8	+1.9	+1.7	+0.3
Southern Plateau	15	66.4	+1.6	+11.0	+2.2
Middle Plateau	9	58.1	+2.2	+19.3	+3.9
Northern Plateau	10	55.2	+0.8	+18.0	+3.6
North Pacific	9	54.0	-0.4	+12.5	+2.5
Middle Pacific	5	60.7	+0.8	+7.3	+1.5
South Pacific	4	63.7	+1.4	+9.5	+1.9

PRECIPITATION.

In general precipitation was below the average. It was exactly average in New England, slightly above in Florida, the southern slope, the southern Plateau, the northern Plateau, and the north and middle Pacific coast, and very much above the average on the south Pacific coast. The regions of greatest deficiency, as has been stated before, were in North Dakota and elsewhere in the upper Missouri Valley. Storms advancing from the northwest during the month gave practically no rainfall until the eastern boundary of Minnesota was reached. Likewise the rain area accompanying southwest storms did not extend as far north as Minnesota and North Dakota.

There was also a marked deficiency of rain in Mississippi, northern Alabama, eastern Tennessee, western Pennsylvania, and New York, and in central and southwestern Missouri.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		Inches.	Inches.
New England	10	3.53	100	0.0	+2.1
Middle Atlantic	12	2.73	76	-0.9	-2.6
South Atlantic	10	2.96	75	-1.0	+0.8
Florida Peninsula	7	4.09	108	+0.3	+6.8
East Gulf	7	3.58	84	-0.7	+3.2
West Gulf	7	3.98	91	-0.4	+0.5
Ohio Valley and Tennessee	12	3.02	79	-0.8	-5.9
Lower Lake	8	1.79	53	-1.6	-0.8
Upper Lake	9	2.27	67	-1.1	-2.8
North Dakota	8	0.71	31	-1.6	-3.3
Upper Mississippi Valley	11	3.60	88	-0.5	-2.0
Missouri Valley	10	2.16	50	-2.1	-2.5
Northern Slope	7	1.00	42	-1.4	+0.2
Middle Slope	6	2.80	78	-0.8	+1.1
Southern Slope	6	3.51	109	+0.3	+2.4
Southern Plateau	15	0.63	100	0.0	-1.0
Middle Plateau	9	0.81	73	-0.3	-1.8
Northern Plateau	10	2.35	134	+0.6	-0.6
North Pacific	9	4.37	147	+1.4	-2.3
Middle Pacific	5	1.62	107	+0.1	-4.3
South Pacific	4	1.65	471	+1.3	-4.1

In Canada.—Prof. R. F. Stupart says:

The rainfall exceeded the normal in British Columbia and in the Maritime Provinces, but was deficient in all other parts of the Domi-

nion, except in the northern districts of Ontario, Muskoka, Parry Sound, and Nipissing, where it was either equal to, or somewhat in excess of the average. The most marked deficiency occurred in the counties bordering on Lake Ontario, between Prince Edward and Toronto, where the total fall was less than an inch; and again in Manitoba, where the aggregate amount recorded during the month was very generally but a small fraction of an inch.

Light snows fell in northern New England and quite generally throughout New York State during the early part of the month. There were also traces of snowfall in southeastern Michigan and throughout northern Ohio. Snow also fell at the more elevated stations in the Rocky Mountain and Plateau regions. The number of stations reporting snow, however, is so small that the chart of total monthly snowfall is not published.

HAIL.

The following are the dates on which hail fell in the respective States:

Alabama, 8, 23, 24. Arizona, 5, 11, 20. Arkansas, 2, 6, 8. California, 10. Colorado, 5, 6, 9, 10, 11, 14, 15, 18, 19, 20, 21, 24, 25, 29, 30. Delaware, 3. Florida, 22. Georgia, 2, 20. Idaho, 1, 5, 6, 10, 11, 16, 22, 24. Illinois, 2, 6, 7, 8, 26, 29. Indiana, 7, 8, 17, 27. Indian Territory, 2, 3, 5, 28. Iowa, 4, 6, 7, 14, 28, 31. Kansas, 2, 3, 4, 6, 7, 14, 15, 22, 25, 30. Kentucky, 5, 6, 8, 28. Louisiana, 8, 20, 28, 29. Maryland, 9. Michigan, 4, 7, 13, 14, 16, 26, 27, 28, 29, 30. Minnesota, 12, 13, 23, 27. Mississippi, 8, 19. Missouri, 2, 4, 5, 6, 7, 14, 26, 28, 30. Montana, 6, 11, 16, 19, 24, 27, 31. Nebraska, 5, 6, 7, 12, 13, 18, 23, 24, 25, 29, 30, 31. Nevada, 11, 16, 19. New Jersey, 18. New Mexico, 2, 6, 13, 14, 18, 19, 20, 24, 25, 26, 28, 30, 31. New York, 3, 4, 5, 15, 17, 19, 20, 21, 22. North Carolina, 2, 5, 9. North Dakota, 7, 29. Ohio, 4, 8, 17, 18, 27. Oklahoma, 2, 6, 22, 23, 28. Oregon, 7, 8, 9, 16, 23, 25, 26. Pennsylvania, 3, 8, 18, 20. South Dakota, 31. Tennessee, 2, 3, 8, 25, 28, 30. Texas, 1, 2, 3, 6, 7, 8, 13, 24, 27, 28, 30. Utah, 1, 5, 11, 12. Virginia, 1, 2, 3. Washington, 3, 5, 13, 15, 19, 21, 23, 26, 27, 30. West Virginia, 8. Wisconsin, 8, 14, 16, 26, 27. Wyoming, 5, 6, 14, 18, 21.

SLEET.

The following are the dates on which sleet fell in the respective States:

California, 4. Colorado, 1, 2, 6, 7, 9, 11, 14, 15, 23, 24, 28, 29, 30. Montana, 27. Nevada, 5. New York, 10. Ohio, 4. Utah, 5. Washington, 26.

SUNSHINE AND CLOUDINESS.

The distribution of sunshine is graphically shown on Chart VII, and the numerical values of average daylight cloudiness, both for individual stations and by geographical districts, appear in Table I.

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	5.5	0.0	Missouri Valley	4.6	-0.8
Middle Atlantic	4.8	-0.4	Northern Slope	4.6	-0.8
South Atlantic	3.6	-0.8	Middle Slope	4.6	0.0
Florida Peninsula	6.0	+1.5	Southern Slope	4.4	-0.1
East Gulf	3.9	-0.4	Southern Plateau	2.3	+0.1
West Gulf	5.0	+0.1	Middle Plateau	4.0	-0.1
Ohio Valley and Tennessee	4.7	-0.4	Northern Plateau	5.5	-0.1
Lower Lake	5.5	+0.3	North Pacific Coast	6.7	+0.8
Upper Lake	5.9	+0.4	Middle Pacific Coast	3.9	-0.3
North Dakota	3.7	-1.6	South Pacific Coast	3.1	-1.1
Upper Mississippi	4.9	-0.3			

HUMIDITY.

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	74	- 4	Missouri Valley	62	- 3
Middle Atlantic	64	- 7	Northern Slope	57	0
South Atlantic	71	- 3	Middle Slope	66	+ 6
Florida Peninsula	80	+ 3	Southern Slope	68	+ 10
East Gulf	68	- 4	Southern Plateau	31	+ 1
West Gulf	77	+ 4	Middle Plateau	87	- 8
Ohio Valley and Tennessee	62	- 6	Northern Plateau	59	+ 1
Lower Lake	68	- 2	North Pacific Coast	76	- 2
Upper Lake	68	- 4	Middle Pacific Coast	67	- 5
North Dakota	55	- 9	South Pacific Coast	69	+ 1
Upper Mississippi	67	0			

ATMOSPHERIC ELECTRICITY.

Numerical statistics relative to auroras and thunderstorms are given in Table VII, which shows the number of stations from which meteorological reports were received, and the number of such stations reporting thunderstorms (T) and auroras (A) in each State and on each day of the month, respectively.

Thunderstorms.—Reports of 3,855 thunderstorms were received during the current month as against 5,305 in 1899 and 2,617 during the preceding month.

The dates on which the number of reports of thunderstorms for the whole country were most numerous were: 8th, 300; 7th, 225; 30th, 217; 28th, 215; 18th, 204.

Reports were most numerous from: Illinois, 297; Missouri, 270; Nebraska, 185; Ohio, 182.

Auroras.—The evenings on which bright moonlight must have interfered with observations of faint auroras are assumed to be the four preceding and following the date of full moon, viz, 9th to 17th.

In Canada.—Auroras were reported as follows: Father

Point, 4th, 18th, 29th; Montreal, 5th; Toronto, 4th; Minnedosa, 1st, 2d, 4th; Qu'Appelle, 4th; Medicine Hat, 2d, 4th; Battleford, 1st, 2d, 5th, 26th.

Thunderstorms were reported as follows: Halifax, 9th, 15th; Grand Manan, 14th, 15th; Yarmouth, 9th, 15th, 18th, 19th; Father Point, 31st; Quebec, 14th; Montreal, 15th, 19th; Bissett, 13th; Kingston, 13th, 14th, 15th; Toronto, 8th, 17th, 30th; White River, 14th, 30th; Port Stanley, 8th, 12th, 15th, 27th, 31st; Saugeen, 8th, 27th, 28th; Parry Sound, 14th; Port Arthur, 14th; Minnedosa, 22d, 29th; Qu'Appelle, 10th; Medicine Hat, 10th, 27th; Swift Current, 5th, 6th, 11th, 12th, 13th, 19th, 20th; Calgary, 11th; Banff, 10th; Prince Albert, 21st, 27th; Battleford, 6th, 7th, 11th, 21st, 22d; Victoria, 3d; Barkerville, 8th, 10th.

WIND.

The maximum wind velocity at each Weather Bureau station for a period of five minutes is given in Table I, which also gives the altitude of Weather Bureau anemometers above ground.

Following are the velocities of 50 miles and over per hour registered during the month:

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Atlanta, Ga.	3	56	nw.	Mount Tamalpais, Cal.	22	62	w.
Block Island, R. I.	19	52	ne.	Do.	23	58	nw.
Cape Henry, Va.	4	52	nw.	Do.	24	58	nw.
Do.	24	50	n.	Do.	26	78	nw.
Eastport, Me.	19	53	e.	Do.	27	62	nw.
Huron, S. Dak.	31	50	se.	Do.	28	59	nw.
Lander, Wyo.	11	52	sw.	Do.	29	53	nw.
Mount Tamalpais, Cal.	10	54	nw.	Do.	30	55	nw.
Do.	11	71	nw.	New York, N. Y.	9	50	nw.
Do.	12	54	nw.	Do.	10	50	nw.
Do.	15	81	nw.	Do.	21	50	nw.
Do.	16	60	nw.	San Antonio, Tex.	29	50	w.
Do.	18	74	nw.	Sioux City, Iowa.	31	53	nw.
Do.	19	59	w.	Williston, N. Dak.	29	50	w.
Do.	21	57	w.				

DESCRIPTION OF TABLES AND CHARTS.

By ALFRED J. HENRY, Professor of Meteorology.

Table I gives, for about 145 Weather Bureau stations making two observations daily and for about 25 others making only one observation, the data ordinarily needed for climatological studies, viz, the monthly mean pressure, the monthly means and extremes of temperature, the average conditions as to moisture, cloudiness, movement of the wind, and the departures from normals in the case of pressure, temperature, and precipitation, the total depth of snowfall, and the mean wet-bulb temperatures. The altitudes of the instruments above ground are also given.

Table II gives, for about 2,700 stations occupied by voluntary observers, the highest maximum and the lowest minimum temperatures, the mean temperature deduced from the average of all the daily maxima and minima, or other readings, as indicated by the numeral following the name of the station; the total monthly precipitation, and the total depth in inches of any snow that may have fallen. When the spaces in the snow column are left blank it indicates that no snow has fallen, but when it is possible that there may have been snow of which no record has been made, that fact is indicated by leaders, thus (. . .).

Table III gives, for 44 stations selected out of 144 that main-

tain continuous records, the mean hourly temperatures deduced from the Richard thermographs described and figured in the Report of the Chief of the Weather Bureau, 1891-92, p. 29.

Table IV gives, for 44 stations selected out of 142 that maintain continuous records, the mean hourly pressures as automatically registered by Richard barographs, except for Washington, D. C., where Foreman's barograph is in use. Both instruments are described in the Report of the Chief of the Weather Bureau, 1891-92, pp. 26 and 30.

Table V gives, for about 157 stations, the arithmetical means of the hourly movements of the wind ending with the respective hours, as registered automatically by the Robinson anemometer, in conjunction with an electrical recording mechanism, described and illustrated in the Report of the Chief of the Weather Bureau, 1891-92, p. 19.

Table VI gives, for all stations that make observations at 8 a. m. and 8 p. m., the four component directions and the resultant directions based on these two observations only and without considering the velocity of the wind. The total movement for the whole month, as read from the dial of the Robinson anemometer, is given for each station in Table I. By adding the four components for the stations comprised in